

WHAT IS CLAIMED:

1. A liquid chemical delivery system for use with a plurality of supply containers, comprising:

a controller;

a multi-reservoir load cell assembly, including, a buffer reservoir with a chemical output, a main reservoir, a reservoir valve connecting the buffer reservoir to the main reservoir, and a load cell, coupled to the assembly and to the controller, operable to weigh the liquid in the reservoir assembly;

a plurality of supply lines, each having a valve coupled to the controller and to one of the supply containers to the main reservoir; and

means for withdrawing the liquid from the chemical output, opening and closing the reservoir valve, and refilling the main reservoir from the supply containers when demanded by the controller based on signals from the load cell.

2. The system of claim 1, wherein the means for withdrawing the liquid from the output and for refilling the main reservoir from the supply containers, includes a gas line connected to the main reservoir, a gas source connected to the gas line, a vacuum source, a vacuum line connecting the vacuum source to the gas line, a gas valve connecting the gas line, the gas source, and the vacuum source, wherein the controller opens the gas valve to permit gas to flow from the gas source to the main reservoir when liquid is withdrawn from the reservoir and to generate a vacuum in the main reservoir when the reservoir is refilled from the supply containers.

3. The system of claim 1, wherein the controller closes the buffer reservoir from the main reservoir when the reservoir is refilled and liquid is withdrawn such that the buffer reservoir undergoes no negative pressure from the vacuum in the main reservoir.